

Planned
Development and Testing
Fully implemented (on-line or study mode)

Recovery Act Smart Grid Investments SYNCHROPHASOR PROJECT STATUS 30 June 2014



INSTALLED	ATC Comm.	ATC PMU	CCET	Duke Energy	Entergy	Florida P&L	Idaho Power	ISO-NE	Lafayette	Midwest Energy	Midwest ISO	NY ISO *	PJM	WECC
PMU Devices	N/A	49	19	103	49	45	8	73	31	7	260	41	322	393
PMU Substations	69	45	16	52	49	45	4	40	31	7	166	41	90	134
PMU Signals	110 miles fiber	620	19	1,872			100	383			1928	759	2,615	3,032
PDC Count		45	3	4	9	13	0	9	3	1	15	11	24	57
<i>REAL-TIME APPLICATIONS</i>														
Oscillation Detection				1	3		1	3			3	3	2	2
Phase angle monitoring		2	3		3	3	1	1	3	1		3	3	3
Frequency Event detection		2	3					3			3	3		3
Voltage stability monitoring		2	3		3	1	1	2		1	3	3		3
Event Management, Alarm, Restoration		2				1						3		3
General Event Detection		1	3		3	3		3			3		1	3
Islanding detection		2												3
Wide area awareness/visibility		2	3	3	3	1	1	2			2	2	3	3
<i>STUDY MODE APPLICATIONS</i>														
Model validation & improvement		2	1				2	3		1	1	3		3
State estimation model improvement		2	1	2	3	1				1	1	3	2	3
Power plant model improvement			1				2	3					1	3
Post event analysis		2	3	3	3	1	1	2	3	1		3	1	3
Operator training			1											3

* NY ISO also installed 938 automated capacitors